

REMARKS

Presently, claims 1 to 20 are pending in the application. Claims 1 to 3 and 6 stand rejected under 35 U.S.C. §102(b) over Hatanaka et al. (EP 0 321 908). Claims 4, 5, 7 and 8 stand rejected under 35 U.S.C. §103(a) over Hatanaka et al. Claims 9 to 20 stand rejected under 35 U.S.C. §103(a) over Hatanaka et al. in combination with Nguyen et al. U.S. Patent No. 6,279,622. Claims 1 to 14 and 17 to 20 stand rejected over Hatanaka et al. in combination with Leibold (DE 2639301). Claims 15 and 16 stand rejected under 35 U.S.C. §103(a) over Hatanaka et al., Leibold and Feasey U.S. Patent No. 5,130,053. Applicants respectfully traverse the rejections and request reconsideration and reexamination of the application.

The Examiner has rejected claims 1 to 3 and 6 under 35 U.S.C. §102(b) over Hatanaka et al. Applicants submit that Hatanaka et al. lacks all of the features of these claims and therefor fails to anticipate the claimed invention. Specifically, claim 1 defines a vaporizer for vaporizing a sterilant from its liquid phase in a vapor phase sterilization system having a pressure below atmospheric pressure. Hatanaka et al. does not describe or teach operation below atmospheric pressure. Accordingly, it cannot anticipate claim 1 or the remaining claims which depend therefrom.

The Examiner has rejected claims 4, 5, 7 and 8 under 35 U.S.C. §103 over Hatanaka et al. Hatanaka et al. fails to teach operation below atmospheric pressure. Furthermore, it would not be obvious to one of skill in the art to so modify Hatanaka et al. as it operates under a fundamentally different principal, that of entertaining the vaporized sterilant in a carrier gas which is passed through the vaporizer. Accordingly, Applicants submit that Hatanaka et al. fails to make obvious the claimed invention.

The Examiner has rejected claims 9 to 20 under 35 U.S.C. §103(a) over Hatanaka et al. in view of Nguyen et al. Nguyen et al. teaches a vaporizer for a sterilization chamber operating at low pressures. Hatanaka et al. teaches a vaporizer for operation employing a carrier gas. There would be no motivation for employing the vaporizer of Hatanaka et al. as suggested to by the Examiner with a low pressure sterilization chamber as the carrier gas would destroy the vacuum within the

sterilization chamber and render the sterilization cycle ineffective. Accordingly, one of ordinary skill in the art would not be motivated to make the combination put forward by the Examiner.

The Examiner has rejected under 35 U.S.C. § 103(a) claims 1 to 14 and 17 to 20 over Hatanaka et al. in combination with Leibold and claims 15 and 16 over Hatanaka et al. in combination with Leibold and Feasey et al. Applicants submit that there is no suggestion for making the alleged combination.

Leibold discloses an evaporator for producing ethylene oxide and other toxic vapors and which comprises a vessel containing heated liquid into which is immersed a coiled tube. The vapors are produced in the coiled tube and a throttling device 7 limits the flow of these vapors so that too much does not flow at once and the vaporizer can run in continuous rather than batch mode. A Derwent English language abstract of Leibold was previously provided.

Hatanaka et al. heat small quantities of hydrogen peroxide in a flow of carrier gas, send it through a baffle and then send it off to condense upon a surface to perform sterilization of that surface. Hatanaka et al. do not disclose a flow restriction between the baffle and the outlet.

One of skill in the art would not be motivated to combine the teachings of Leibold with those of Hatanaka et al. Leibold lacks a good method for controlling the rate of evaporation in the tube and so includes a flow restriction to prevent surges. The arrangement of Hatanaka et al. requires no such restriction as the evaporation is easily controlled by how fast drops of hydrogen peroxide are fed through the nozzle 20. No throttle would be necessary to prevent surges and would be contraindicated as it would add an unnecessary pressure drop into the system thus reducing energy efficiency. The Examiner asserts that adding the throttle of Leibold to Hatanaka et al. would allow the apparatus of Hatanaka et al. "to be used continuously instead of only intermittently, in a controlled manner without danger to the surrounding and personnel." As can be seen, such is not necessary when the rate is controlled by the rate of drops coming out of the nozzle. Hatanaka et al. can be operated continuously without any flow restriction.

This is especially true given the use of a carrier gas. In such use one of skill in the art would want to promote good flow so as to not inhibit contact of the sterilant to the items being sterilized. Further, a flow restriction may slightly increase the danger rather than decrease it as it could cause a pressure back-up pushing the atmosphere upstream of the flow restriction closer to an explosive state. In any event, it is not needed and one of skill in the art would not be motivated to make the alleged combination.

Applicants submit that the application is presently in condition for allowance and request favorable reconsideration and early notice of allowance. If it would speed prosecute the Examiner is encouraged to contact the undersigned attorney by telephone.

Respectfully submitted,

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